ON SOME COLLEMBOLA FROM HOKKAIDO*

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FOUR FIGURES

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On their trip through Hokkaido in the summer 1939, Mr. T. Umesao and J. Kawakita collected some collembola which were kindly passed to me for investigation. The descriptions of some interesting forms or those new to that district follow. It is my great pleasure to express here my thanks to the named gentlemen to whom I owe the material.

Tullbergia tomuraushensis, n. sp.

Fig. 1

White in general tint, more robust than the other members of the same genus. Postantennal organ oblong-elliptical, with about 15 simple tubercles. Pseudocelli with a distinct ring much like in the genus *Onychiurus*. Dorsal pseudocelli as follows: Antennal base 3+3, arranged in a straight line and very close to each other. Posterior border of head and prothorax 0+0. Meso- and metathorax 1+1, the former pair being closer to each other than the latter. Abd. II and III with 1+1 but may be 0+0 in some individuals. Abd. IV with 2+2. Abd. V with 3+3, on postero-lateral sides and very close to each other. Antennae shorter than head; sensory organs of third antennal segments with 6 guard setae, five digitate papillae, two smooth erect rods and two grossly granulate sense clubs. Accessory sense club not obvious. Fourth antennal segment with a thick sensory groove which has one sensory papilla accompanied by 3—4 curved hairs, besides a few curved blunt sensory hairs. Legs stout but relatively short; Unguis strong, with one lateral tooth which is so minute that it is discernible only by highest magnification. Unguiculus reduced, provided with a dorsal ridge; inner margin lamellate. Two anal spines, each on its own papilla. Clothing of sparse, short and stiff setae. Sensory hairs present, long and suberect. Stach's organ (the sensory ornaments described by J. Stach 1934 from the ventral side of some species of *Onychiurus*) absent. Genital field well-defined, with about ten feeble hairs.

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* Studies on Japanese Collembola, V.

Length of the body: About 3 mm.

Co-types: 12 examples collected at the top of Mt. Tomuraush, Prov. Isikari, Hokkaido (29. VIII 1939).

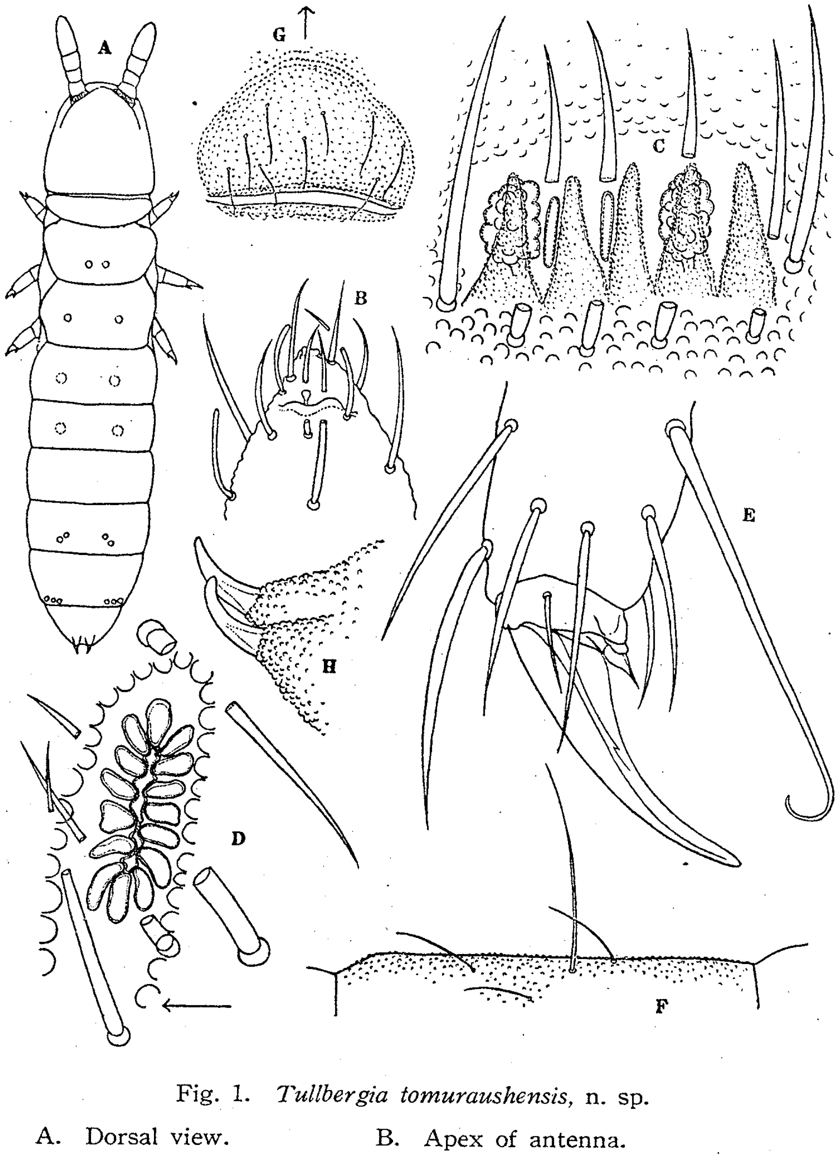

Fig. 1. *Tullbergia tomuraushensis*, n. sp.

A. Dorsal view.
B. Apex of antenna.
C. Third antennal organ.
D. Postantennal organ.
E. Fore claw.
F. Dorsal setae of third abdominal segment.
G. Genital field.
H. Anal spine.

Remarks: The regenerated unguiculus suggests that the present species might be a member of *Tullbergia*. However, the third antennal organ and the pseudocelli are quite identical in structure with those in the genus *Onychiurus*. Especially the former reminds us of that of *Onychiurus sibilicus* Tullberg. It must be noticed that the species represents a transitory form between those two genera, and that the generic characters of *Tullbergia* require emendation.

Isotoma gracilliseta Börner

Isotoma gracilliseta; Börner, 1909 p. 113……Yosii, 1939 p. 376.

2 examples collected at Sipiutan, Prov. Kitami (2. IX 1939).

Geographical Distribution: Endemic to Japan.

Isotoma viridis (Bourlet)

Fig. 2

Isotoma viridis; Schött, 1893……Linnaniemi, 1912 p. 162……Stach, 1919 p. 162…. Do, 1922 p. 22……Handschin, 1929 p. 67……Folsom, 1937 p. 109.

1 example from Mt. Tomuraush, Prov. Isikari (29. VIII 1939).

Our material has a colouration similar to that of *Isotoma viridis* (Bourlet) var. *riparia* (Nicolet).

Geographical Distribution: Europe, Siberia, Alaska, N. America, Mexico and Asia Minor.

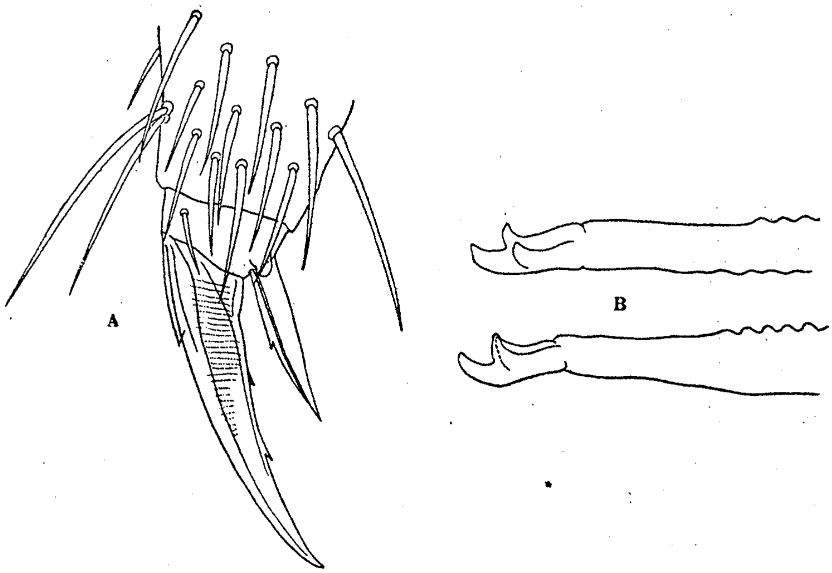

Fig. 2. *Isotoma viridis* (Bourlet).
A. Mid claw. B. Mucro of right and left sides.

Sinella umesaoi, n. sp.

Fig. 3

Length of the body up to 3 mm. Colouration whitish, with slight purplish pigments all over the body, marginal parts of tergits rather pale. Eyes 5 on each side, pigmented black, but not so strongly as to form one complete mass, so that each eyes are discernible without the use of KOH. One degenerated eye without cornea is also to be seen on the outer side of these groups. Unguis strong with one pair of conspicuous wing-teeth and one additional inner tooth. One psudonychiate lateral tooth is also present. Unguiculus acute, 3/5 as long as unguis and with one conspicuous outer tooth. One tenent hair in each tibiotarsus, setaceous, and subequal to unguiculus in length. One spiny hair is also present opposite to the tenent hair. Furcula normal; Manubrium and dentes hirsute, but without any accessory apparatus. Dorsal side of dentes with a row of transverse striation, leaving apically a smooth portion nearly as long as the mucro. The latter of *Entomobrya*-type, with one apical tooth and an anteapical tooth acccompanied by a basal spine. Tenaculum quadridentate: corpus with one simple hair. Integuments smooth, covered all over with plumose hairs. Clubbed hairs weakly developed, brownish in colour and are relatively few in number. They are especially abundant on meso- and metathoracal tergits. Ant.: head=2.2:1; ant. I:II:III:IV=1:2.1:1.7:2.9;

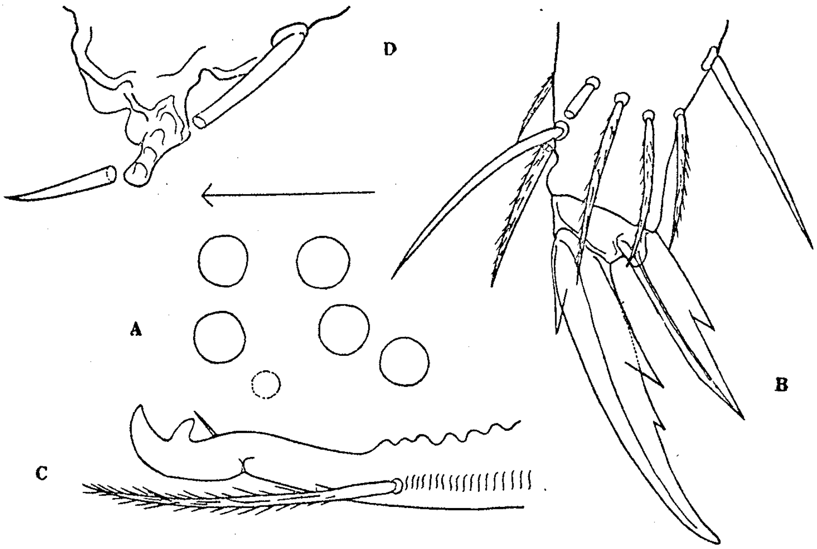

Fig. 3. *Sinella umesaoi*, n. sp.

A. Eyes.
B. Hind claw.
C. Mucro.
D. Tenaculum.

abd. III : IV = 1 : 3.2 ; manubr. : mucrodentes = 1.0 : 1.3.

Co-types: 6 examples collected at Sipiutan, Prov. Kitami, Hokkaido (2. IX 1939).

Ranges: This species is not limited to Hokkaido district; another example has since been obtained at Yubiso-Onsen, Pref. Gunma, Honsyu. (19. VI 1939, R. Yosii) and also two more examples at Yoshida, Kyoto (22. IX 1939, R. Yosii).

Remarks: This species is somewhat related to the Palaearctic *Sinella myrmecophila* Reuter, from which, however, it is easily distinguished by the number of eyes as well as by the presence of an outer tooth of unguiculus.

Tomocerus flavescens Tullberg var. *arcticus* Schött

Locality: Sipiutan, Prov. Kitami (2. IX 1939).

Tomocerus vulgaris Tullberg. var. *jesonicus*, n. var. (M.S.)

Locality: Sôunkyô, Prov. Isikari (28. VIII 1939).

For these two species, the reader is referred to the descriptions in my "Genus *Tomocerus* from Japan."

Dicyrtoma fusca (Lucas)

Fig. 4

Dicyrtoma fusca; Börner, 1906....Linnaniemi, 1912....Handschin, 1929....Stach, 1924.
Papirus fuscus, Lubbock, 1873.

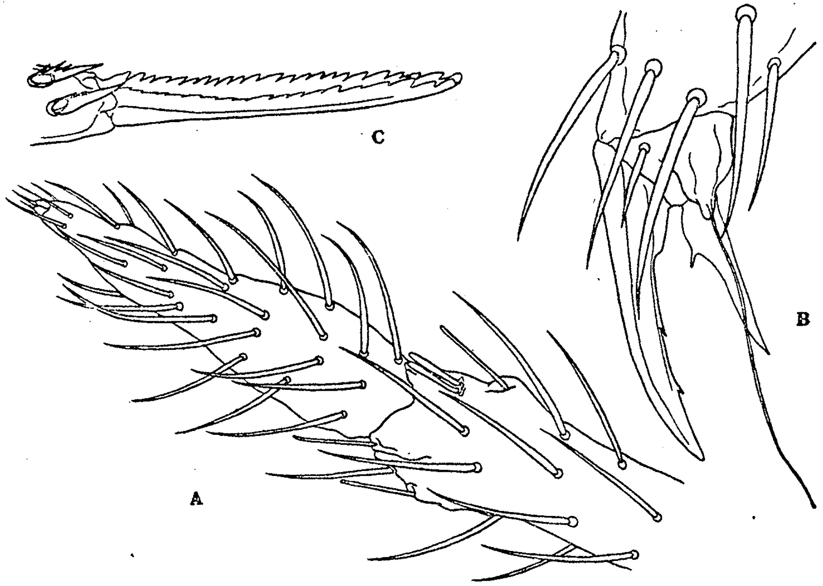

Fig. 4. *Dicyrtoma fusca* (Lucas).
A. Apex of antenna. B. Mid-claw. C. Mucro.

Four examples collected at Sipiutan, Prov. Kitami (2. IX 1939). show some differences in colouration from those illustrated by Lubbock, and are rather similar to Linnaniemi's f. *principalis* and Stach's *dorsosignata* no. 3.

Geographical Distribution: Europe, Siberia (Jennisei, Lena) and North Africa (incl. Malta Is.).

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